

BRIZE NORTON RAF, UK

Latitude = 51.75 N

Longitude = 1.58 W

Period of Record = 1973 to 1996

WMO No. 036490

Elevation = 289 feet

Average Pressure = 29.64 inches Hg

Design Criteria Data

	Design Value	Mean Coincident (Average) Values			
		Wet Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Dry Bulb Temperature (T)	(°F)				
Median of Extreme Highs	84	64	60	8.8	E
0.4% Occurrence	81	64	63	8.5	E
1.0% Occurrence	77	63	63	8.4	E
2.0% Occurrence	73	61	62	8.6	WSW
Mean Daily Range	13	-	-	-	-
97.5% Occurrence	30	29	21	6.6	NE
99.0% Occurrence	27	26	19	6.0	NE
99.6% Occurrence	23	22	15	6.8	NE
Median of Extreme Lows	19	18	12	6.3	ENE
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Humidity Ratio (gr/lb)	Wind Speed (mph)	Prevailing Direction (NSEW)
Wet Bulb Temperature (T_{wb})	(°F)				
Median of Extreme Highs	69	80	85	8.3	ENE
0.4% Occurrence	66	76	78	7.9	WSW
1.0% Occurrence	64	73	74	7.9	WSW
2.0% Occurrence	63	71	73	8.1	WSW
	Design Value	Mean Coincident (Average) Values			
		Dry Bulb Temperature (°F)	Vapor Pressure (in. Hg)	Wind Speed (mph)	Prevailing Direction (NSEW)
Humidity Ratio (HR)	(gr/lb)				
Median of Extreme Highs	93	72	0.62	6.8	ENE
0.4% Occurrence	85	69	0.57	8.0	WSW
1.0% Occurrence	81	67	0.54	8.0	WSW
2.0% Occurrence	76	65	0.50	8.2	WSW
Air Conditioning/ Humid Area Criteria	# of Hours	T ≥ 93°F	T ≥ 80°F	T _{wb} ≥ 73°F	T _{wb} ≥ 67°F
		0	41	0	24

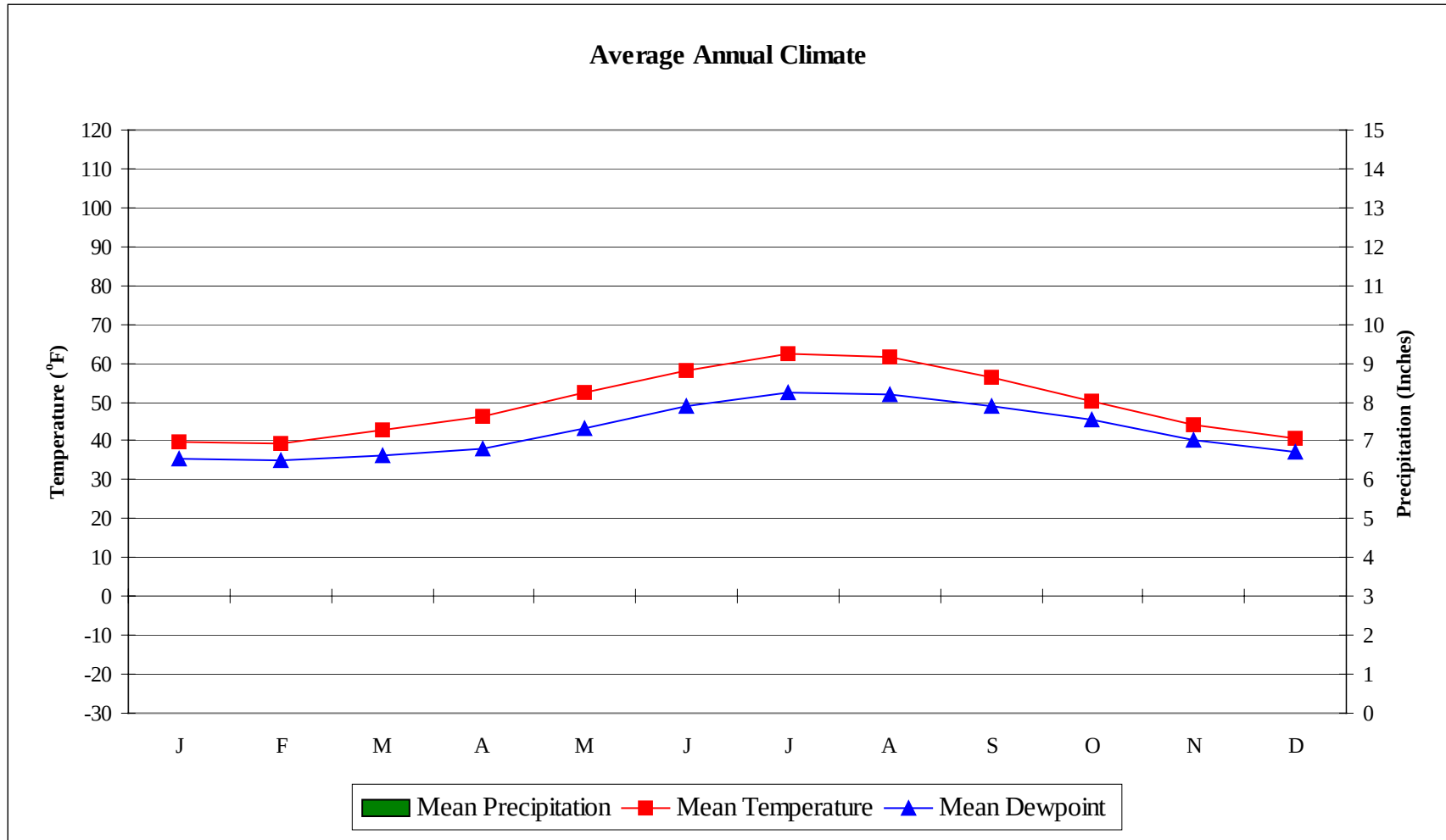
Other Site Data

Weather Region	Rain Rate 100 Year Recurrence (in./hr)	Basic Wind Speed 3 sec gust @ 33 ft 50 Year Recurrence (mph)	Ventilation Cooling Load Index (Ton-hr/cfm/yr) Base 75°F-RH 60% Latent + Sensible
6	N/A	N/A	0.0 + 0.0
Ground Water Temperature (°F) 50 Foot Depth *	Frost Depth 50 Year Recurrence (in.)	Ground Snow Load 50 Year Recurrence (lb/ft ²)	Average Annual Freeze-Thaw Cycles (#)
52.1	N/A	N/A	32

*Note: Temperatures at greater depths can be estimated by adding 1.5°F per 100 feet additional depth.

BRIZE NORTON RAF, UK

WMO No. 036490

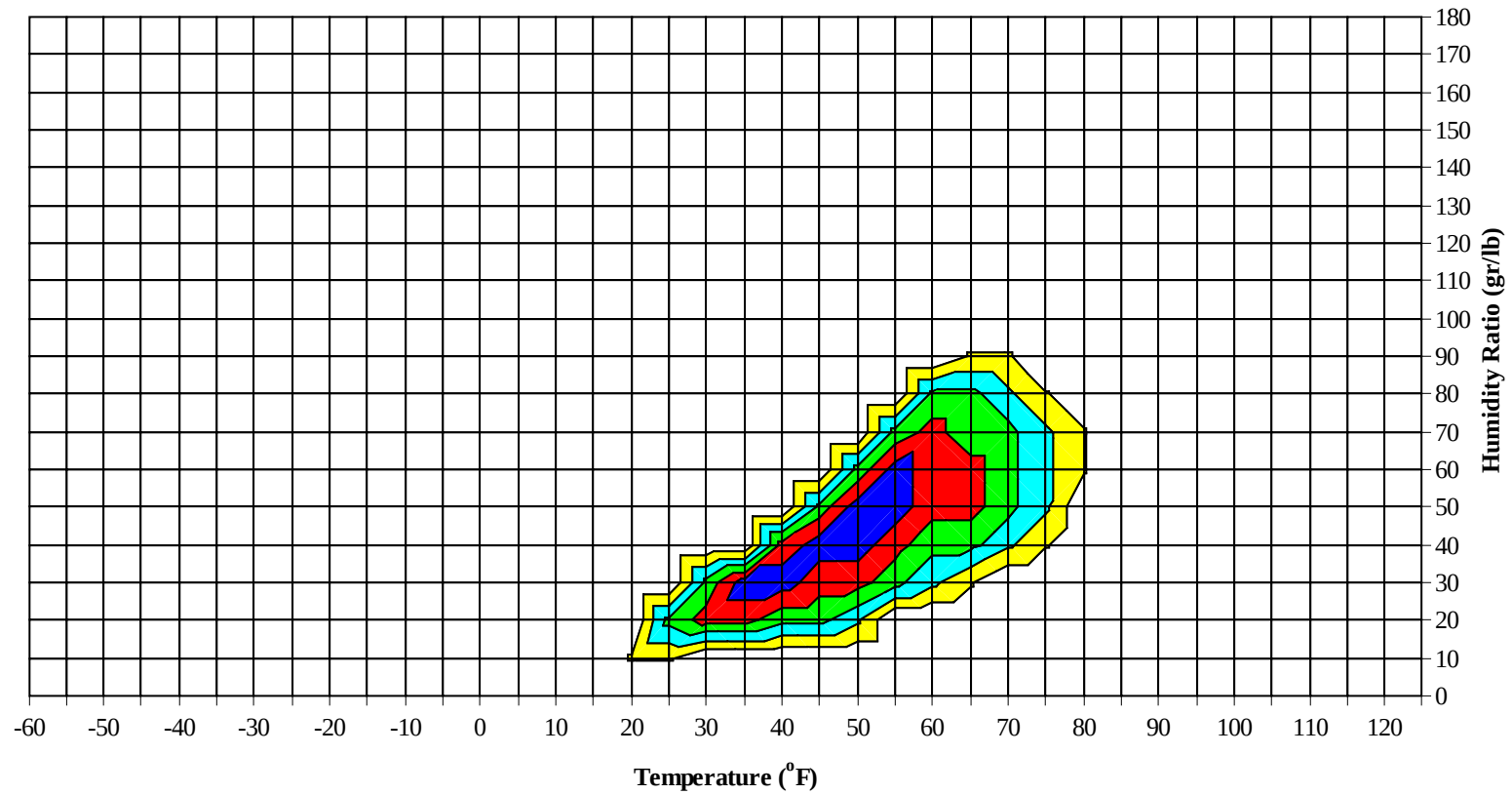


No Precipitation Data Available

BRIZE NORTON RAF, UK

WMO No. 036490

Long Term Psychrometric Summary

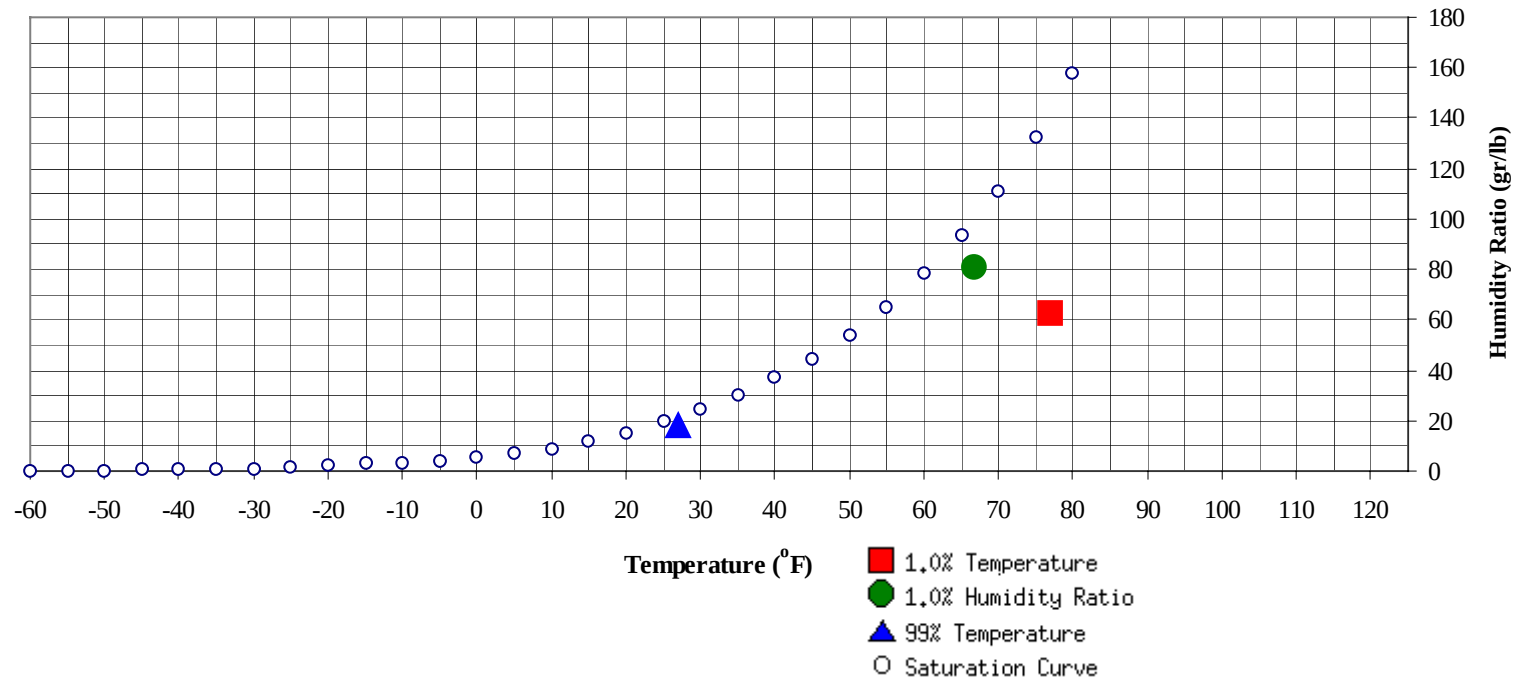


- 50% of all observations
- 80% of all observations
- 95% of all observations
- 97.5% of all observations
- 99% of all observations

BRIZE NORTON RAF, UK

WMO No. 036490

Psychrometric Summary of Peak Design Values



99% Dry Bulb	(°F)	MCHR (gr/lb)	Enthalpy (btu/lb)	1.0% Humidity Ratio	(gr/lb)	MCDB (°F)	MCWB (°F)	MC Dewpt (°F)	Enthalpy (btu/lb)
	27	18.4	9.3		80.5	66.7	63	60.8	28.6

1.0% Dry Bulb	(°F)	MCHR (gr/lb)	MCWB (°F)	Enthalpy (btu/lb)
	77	62.9	62.8	28.3

BRIZE NORTON RAF, UK

WMO No. 036490

Dry-Bulb Temperature Hours For An Average Year (Sheet 1 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	January					February					March				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94															
85 / 89															
80 / 84															
75 / 79															
70 / 74															
65 / 69												0		0	55.4
60 / 64						0			0	55.0	2	1		3	51.4
55 / 59	0	1	0	1	51.5	0	2	1	3	51.3	0	12	3	15	49.5
50 / 54	15	28	18	61	48.7	7	27	13	47	48.1	12	59	29	100	47.3
45 / 49	45	63	51	159	44.5	34	58	48	140	44.1	45	83	74	202	43.5
40 / 44	47	56	54	157	40.0	40	50	50	140	39.8	59	56	66	180	39.4
35 / 39	61	53	59	173	35.6	53	49	57	160	35.4	72	29	54	155	35.4
30 / 34	53	32	46	131	31.3	58	29	41	128	31.2	46	7	20	73	31.1
25 / 29	19	10	14	43	26.2	24	8	12	44	26.3	13	0	2	15	26.5
20 / 24	5	3	4	12	21.4	5	1	3	9	21.1	1			1	22.2
15 / 19	3	1	1	5	16.4	2	0	0	2	17.5					
10 / 14	1	0	0	1	12.2										
5 / 9	0		0	0	6.6										
0 / 4	0		0	0	2.3										
-5 / -1	0			0											
-10 / -6	0			0	-5.0										

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

BRIZE NORTON RAF, UK

WMO No. 036490

Dry-Bulb Temperature Hours For An Average Year (Sheet 2 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	April					May					June				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94												0	0	0	67.4
85 / 89												1	1	2	64.1
80 / 84												4	1	5	64.6
75 / 79							5	1	6	61.4		13	6	19	62.5
70 / 74		1	0	1	56.7		11	5	16	59.4	0	26	16	42	60.4
65 / 69		5	2	7	55.2	0	17	9	26	56.7	3	37	23	63	58.0
60 / 64	0	15	6	21	52.4	1	44	25	70	53.6	15	67	49	132	55.4
55 / 59	1	41	21	63	49.7	16	72	52	141	50.7	63	68	76	207	52.7
50 / 54	19	70	52	141	46.6	64	68	76	209	48.1	97	22	52	172	49.6
45 / 49	63	70	75	208	43.2	95	28	58	181	44.4	48	1	14	63	45.3
40 / 44	69	28	50	147	39.5	49	2	17	68	40.3	12	0	1	13	41.0
35 / 39	56	8	27	91	35.6	19	0	4	23	36.3	2		0	2	36.6
30 / 34	28	1	7	36	31.3	4		0	4	32.0	0			0	32.0
25 / 29	4		0	4	26.7										
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

BRIZE NORTON RAF, UK

WMO No. 036490

Dry-Bulb Temperature Hours For An Average Year (Sheet 3 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	July					August					September				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99						0			0	67.0					
90 / 94		0	0	0	65.6	1	0		1	67.2					
85 / 89		4	1	5	65.6	2	1		3	65.3					
80 / 84		10	4	14	64.5	7	3		10	63.5		0		0	65.4
75 / 79	0	24	14	38	63.0	0	19	10	29	62.4		4	1	5	62.6
70 / 74	1	47	30	78	61.0	1	46	24	71	60.6		13	4	17	60.2
65 / 69	8	64	42	114	59.0	5	63	41	109	58.7	0	38	13	51	58.3
60 / 64	54	71	73	198	57.2	47	79	75	201	56.9	16	82	52	151	56.4
55 / 59	103	28	64	195	54.2	106	29	68	203	54.3	67	75	85	228	53.4
50 / 54	65	1	18	84	50.4	65	2	23	90	50.3	84	24	61	169	49.6
45 / 49	16	0	1	17	46.1	22		2	24	46.1	51	3	21	75	45.4
40 / 44	1			1	42.3	2		0	2	42.1	19	0	2	21	41.3
35 / 39											3		0	3	37.5
30 / 34															
25 / 29															
20 / 24															
15 / 19															
10 / 14															
5 / 9															
0 / 4															
-5 / -1															
-10 / -6															

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

BRIZE NORTON RAF, UK

WMO No. 036490

Dry-Bulb Temperature Hours For An Average Year (Sheet 4 of 5)

Period of Record = 1973 to 1996

Temperature Range (°F)	October					November					December				
	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00			01 To 08	09 To 16	17 To 00		
95 / 99															
90 / 94															
85 / 89															
80 / 84		0		0	59.0										
75 / 79		0		0	59.8										
70 / 74		1	0	1	61.0										
65 / 69		5	1	6	58.8										
60 / 64	4	29	10	43	56.8		2		2	56.1					
55 / 59	32	80	52	163	53.4	11	27	14	52	53.8	3	7	4	14	53.0
50 / 54	64	83	75	222	49.3	39	58	44	141	49.5	27	41	29	97	49.5
45 / 49	67	39	68	175	44.7	48	65	55	168	44.6	46	55	49	150	44.7
40 / 44	43	9	31	83	40.7	48	48	56	152	40.1	45	56	54	155	40.1
35 / 39	29	2	10	41	36.5	53	28	45	126	35.9	61	49	58	168	35.7
30 / 34	8	0	1	9	32.0	30	10	22	62	31.4	41	29	38	108	31.4
25 / 29	1	0	0	1	27.7	11	2	4	17	26.8	19	9	13	41	26.2
20 / 24						1	0	0	1	22.3	5	1	2	8	22.0
15 / 19						0	0		0	16.7	1	0	0	1	16.8
10 / 14											0	0	0	0	12.1
5 / 9											0		0	0	6.3
0 / 4											0		0	0	0.3
-5 / -1											0		0	0	-3.6
-10 / -6											0			0	-6.0

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

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WMO No. 036490

Dry-Bulb Temperature Hours For An Average Year (Sheet 5 of 5)

Period of Record = 1973 to 1996

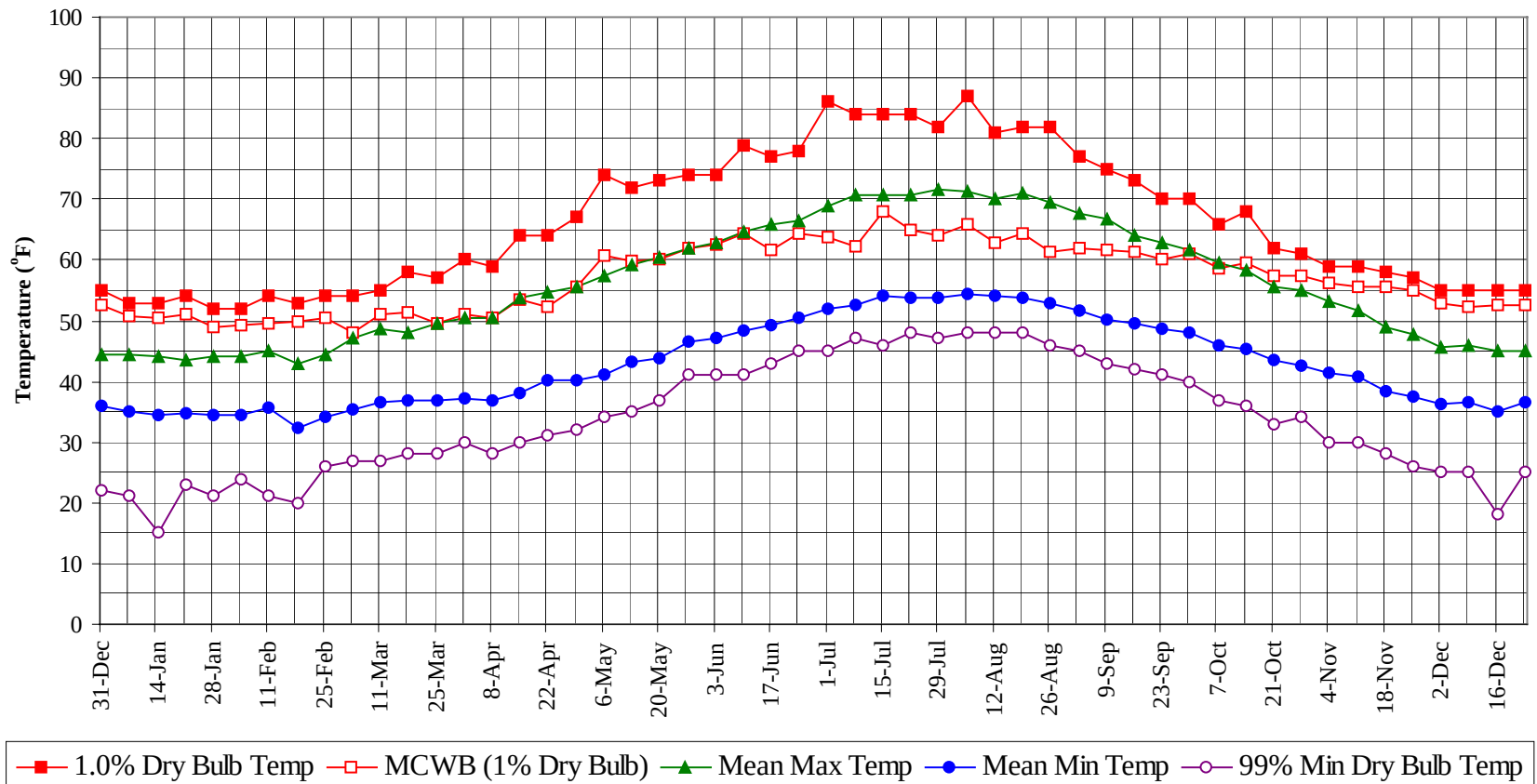
Annual Totals					
Temperature Range (°F)	Hour Group (LST)			Total Obs	M C W B (°F)
	01 To 08	09 To 16	17 To 00		
95 / 99	0			0	67.0
90 / 94	1			2	66.9
85 / 89	6			9	65.3
80 / 84	21			30	64.2
75 / 79	0	64	33	97	62.6
70 / 74	2	145	80	227	60.6
65 / 69	17	230	131	378	58.4
60 / 64	137	393	291	821	56.2
55 / 59	402	444	441	1287	53.0
50 / 54	559	483	492	1534	48.9
45 / 49	582	467	517	1566	44.3
40 / 44	435	305	380	1120	40.0
35 / 39	407	218	314	940	35.7
30 / 34	265	107	174	547	31.3
25 / 29	89	28	45	162	26.4
20 / 24	18	5	8	31	21.6
15 / 19	6	2	1	9	16.7
10 / 14	1	0	0	1	12.2
5 / 9	0		0	0	6.5
0 / 4	0		0	0	1.7
-5 / -1	0		0	0	-3.6
-10 / -6	0			0	-5.5

Caution: This summary reflects the typical distribution of temperature in a typical year. It does not reflect the typical moisture distribution. Because wet bulb temperatures are averaged, this summary understates the annual moisture load. For accurate moisture load data, see the long-term humidity summary and the ventilation and infiltration load pages in this manual.

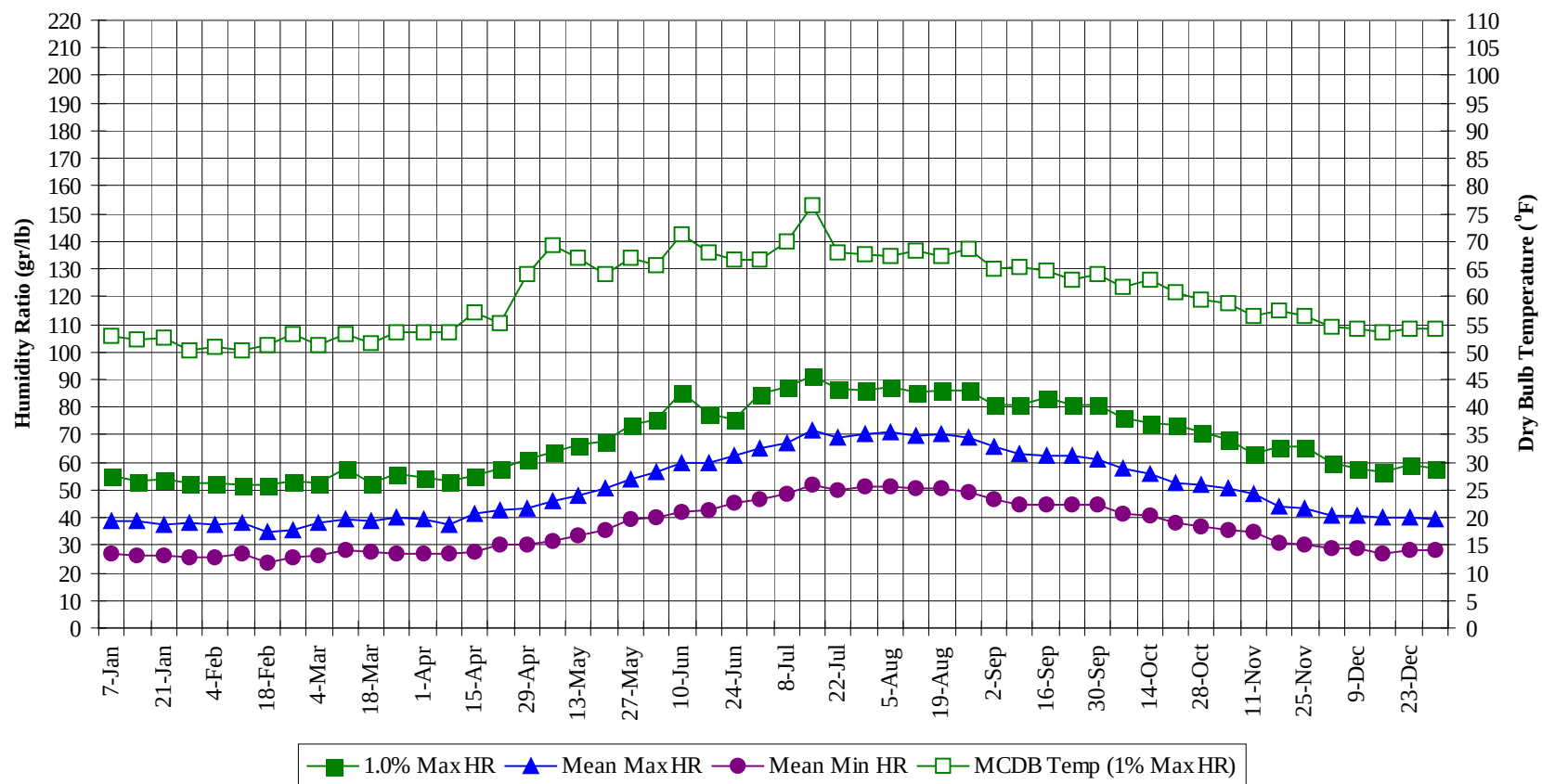
BRIZE NORTON RAF, UK

WMO No. 036490

Annual Summary of Temperatures



Long Term Humidity and Dry Bulb Temperature Summary

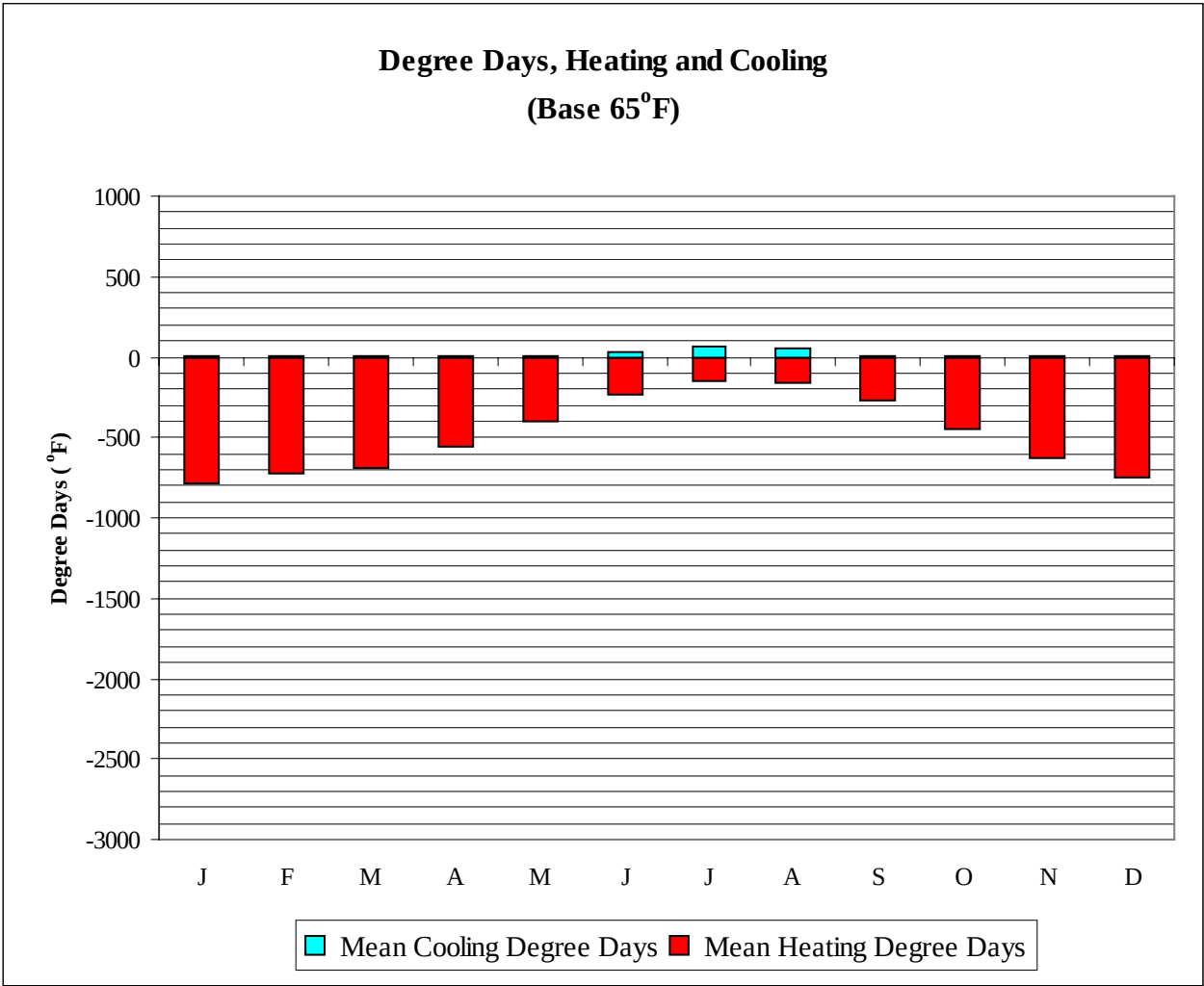


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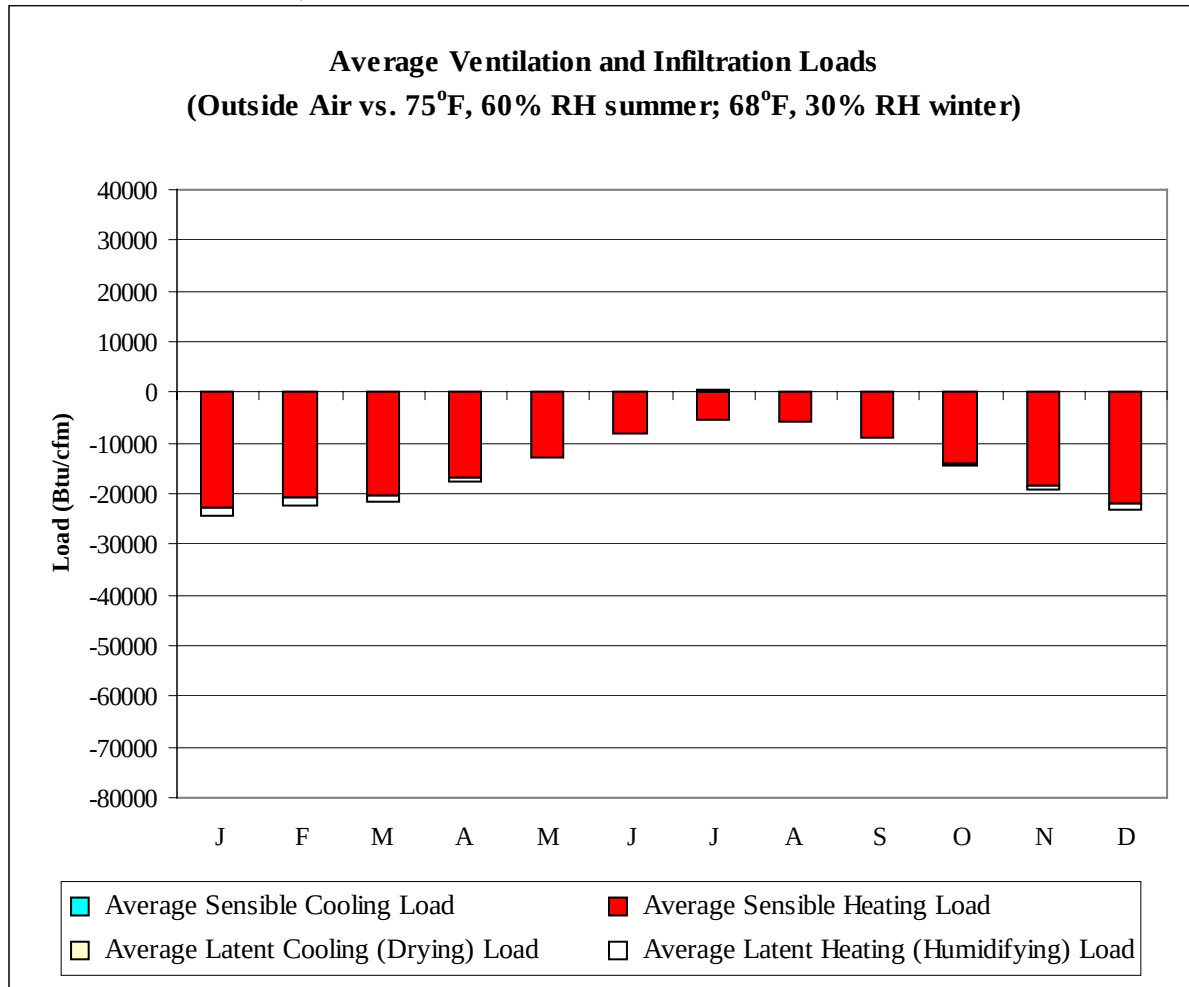
WMO No. 036490

Long Term Dry Bulb Temperature and Humidity Summary

Week Ending	1.0% Temp (°F)	MCWB @ 1% Temp (°F)	Mean Max Temp (°F)	Mean Min Temp (°F)	99% Temp (°F)	1.0% HR (gr/lb)	MCDB @ 1% HR (°F)	Mean Max HR (gr/lb)	Mean Min HR (gr/lb)
7-Jan	53.0	50.8	44.5	35.0	21.0	55.3	52.9	38.8	26.7
14-Jan	53.0	50.6	44.0	34.4	15.0	53.2	52.2	38.5	26.1
21-Jan	54.0	51.0	43.6	34.6	23.0	53.9	52.5	37.2	26.1
28-Jan	52.0	48.9	44.2	34.5	21.0	52.5	50.4	38.1	25.9
4-Feb	52.0	49.1	44.1	34.3	24.0	52.5	51.0	37.7	25.8
11-Feb	54.0	49.5	44.9	35.6	21.0	51.8	50.3	38.4	27.3
18-Feb	53.0	50.0	42.9	32.4	20.0	51.8	51.1	34.8	24.0
25-Feb	54.0	50.4	44.3	34.2	26.0	53.2	53.2	35.2	25.4
4-Mar	54.0	47.9	47.0	35.2	27.0	52.5	51.2	38.0	26.3
11-Mar	55.0	51.0	48.7	36.6	27.0	58.1	53.3	39.5	28.0
18-Mar	58.0	51.3	48.1	36.8	28.0	52.5	51.6	38.8	27.3
25-Mar	57.0	49.5	49.6	36.9	28.0	56.0	53.4	39.9	26.6
1-Apr	60.0	51.1	50.4	37.0	30.0	54.6	53.7	39.7	27.1
8-Apr	59.0	50.4	50.6	36.8	28.0	53.2	53.4	37.7	26.8
15-Apr	64.0	53.4	53.8	38.2	30.0	55.3	57.2	41.1	27.9
22-Apr	64.0	52.2	54.8	40.1	31.0	58.1	55.3	42.5	30.2
29-Apr	67.0	55.6	55.7	40.1	32.0	60.9	63.9	43.5	30.3
6-May	74.0	60.6	57.4	41.2	34.0	63.7	69.3	45.9	31.3
13-May	72.0	59.9	59.2	43.1	35.0	66.5	66.9	48.3	33.7
20-May	73.0	60.3	60.5	43.8	37.0	67.9	64.1	50.6	35.7
27-May	74.0	62.0	61.8	46.4	41.0	73.5	67.1	54.0	39.1
3-Jun	74.0	62.6	63.0	47.1	41.0	75.6	65.8	56.5	40.3
10-Jun	79.0	64.2	64.7	48.3	41.0	85.4	71.4	59.9	42.2
17-Jun	77.0	61.7	65.8	49.3	43.0	77.7	67.9	59.7	42.9
24-Jun	78.0	64.3	66.6	50.4	45.0	75.6	66.7	62.4	45.1
1-Jul	86.0	63.9	68.8	51.9	45.0	84.7	66.6	65.1	46.8
8-Jul	84.0	62.4	70.7	52.6	47.0	87.5	70.0	67.1	48.4
15-Jul	84.0	67.9	70.6	54.2	46.0	91.0	76.6	71.5	52.1
22-Jul	84.0	64.9	70.6	53.7	48.0	86.8	67.9	68.7	49.7
29-Jul	82.0	64.2	71.6	53.9	47.0	86.1	67.6	70.1	51.1
5-Aug	87.0	66.0	71.4	54.5	48.0	87.5	67.3	70.6	51.1
12-Aug	81.0	62.7	70.1	54.0	48.0	85.4	68.5	69.4	50.3
19-Aug	82.0	64.3	70.9	53.9	48.0	86.1	67.4	70.1	50.7
26-Aug	82.0	61.3	69.4	52.9	46.0	86.1	68.6	69.2	48.9
2-Sep	77.0	61.9	67.6	51.6	45.0	80.5	65.2	65.6	46.6
9-Sep	75.0	61.6	66.7	50.1	43.0	80.5	65.4	63.1	44.5
16-Sep	73.0	61.4	64.0	49.6	42.0	83.3	64.8	62.3	44.8
23-Sep	70.0	60.0	62.7	48.8	41.0	80.5	63.1	62.2	44.4
30-Sep	70.0	60.9	61.5	48.1	40.0	80.5	64.1	60.9	44.8
7-Oct	66.0	58.6	59.5	46.0	37.0	76.3	61.6	58.1	41.3
14-Oct	68.0	59.5	58.2	45.3	36.0	74.2	63.1	55.6	40.8
21-Oct	62.0	57.4	55.5	43.5	33.0	73.5	60.8	52.7	37.8
28-Oct	61.0	57.3	55.1	42.7	34.0	70.7	59.3	51.6	36.8
4-Nov	59.0	56.1	53.2	41.4	30.0	68.6	58.7	50.3	35.6
11-Nov	59.0	55.5	51.7	40.9	30.0	63.0	56.3	48.8	34.5
18-Nov	58.0	55.5	48.9	38.2	28.0	65.8	57.4	44.3	30.6
25-Nov	57.0	54.9	47.6	37.4	26.0	65.8	56.3	43.1	29.9
2-Dec	55.0	52.8	45.8	36.3	25.0	59.5	54.4	40.4	28.8
9-Dec	55.0	52.4	46.0	36.4	25.0	58.1	54.3	41.0	28.7
16-Dec	55.0	52.5	44.9	34.9	18.0	56.7	53.6	40.1	27.2
23-Dec	55.0	52.5	44.9	36.5	25.0	58.8	54.3	40.2	28.5
31-Dec	55.0	52.6	44.5	35.9	22.0	58.1	54.3	39.4	28.0



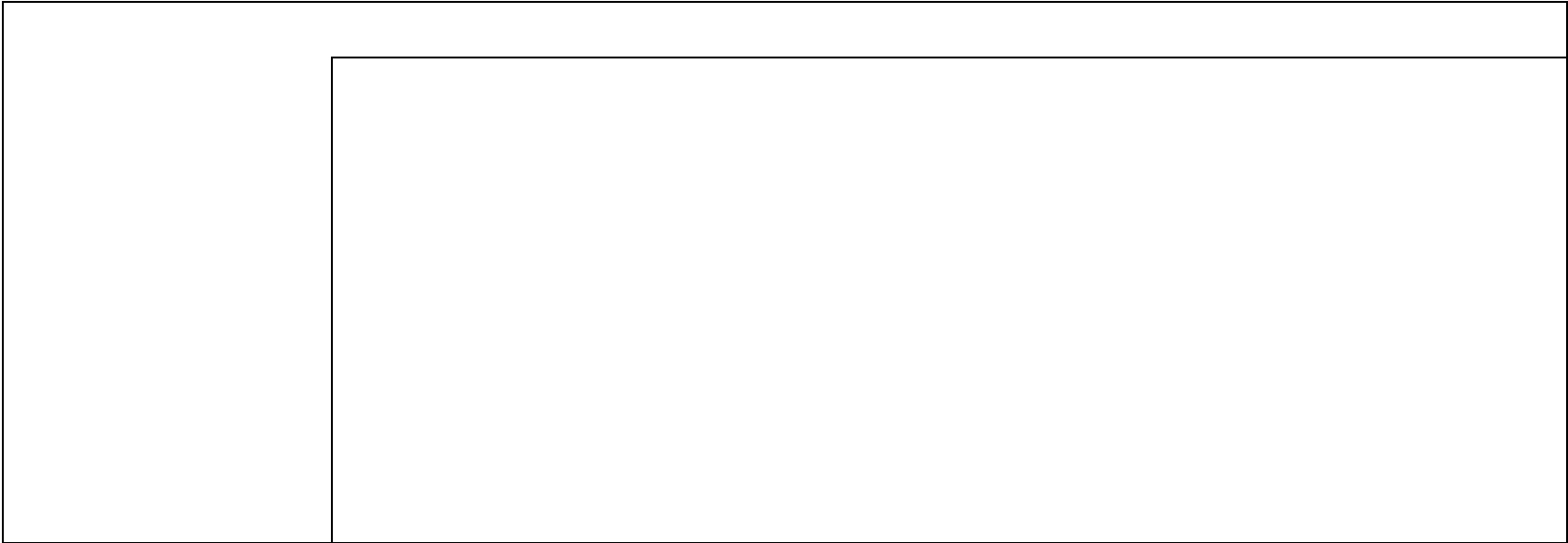
	Mean Cooling Degree Days (°F)	Mean Heating Degree Days (°F)
JAN	0	786
FEB	0	724
MAR	0	692
APR	1	562
MAY	9	404
JUN	31	238
JUL	62	144
AUG	52	156
SEP	10	264
OCT	1	455
NOV	0	627
DEC	0	748
ANN	165	5800



	Average Sensible Cooling Load	Average Sensible Heating Load	Average Latent Cooling Load	Average Latent Heating Load
	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)	(Btu/cfm)
JAN	0	-22779	0	-1625
FEB	0	-20958	0	-1604
MAR	0	-20340	0	-1313
APR	0	-16893	0	-845
MAY	6	-12773	1	-225
JUN	92	-8167	37	-20
JUL	235	-5513	130	-1
AUG	176	-5878	96	-2
SEP	8	-9028	17	-4
OCT	1	-14182	0	-129
NOV	0	-18594	0	-732
DEC	0	-21797	0	-1333
ANN	518	-176902	281	-7833

Average Annual Solar Radiation – Nearest Available Site
(Source: National Renewable Energy Laboratory, Golden CO, 1995)

No Solar Radiation
Data Available

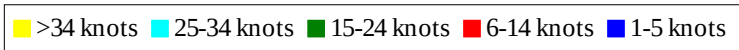
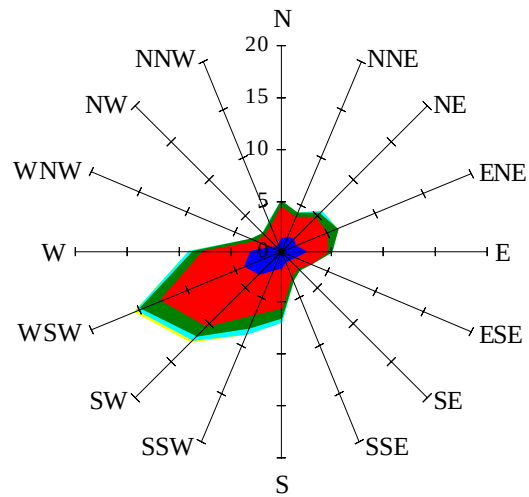


Average Annual Solar Heat and Illumination – Nearest Available Site

(Source: National Renewable Energy Laboratory, Golden CO, 1995)

Wind Summary - December, January, and February

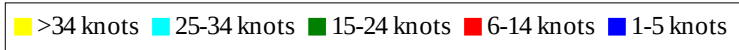
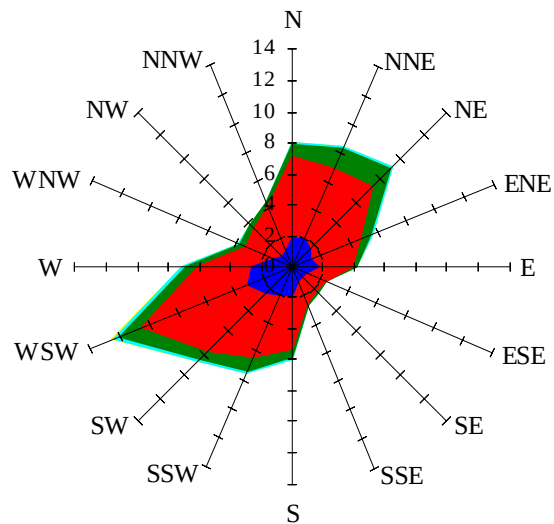
Labels of Percent Frequency on North Axis



Percent Calm = 5.61

Wind Summary - March, April, and May

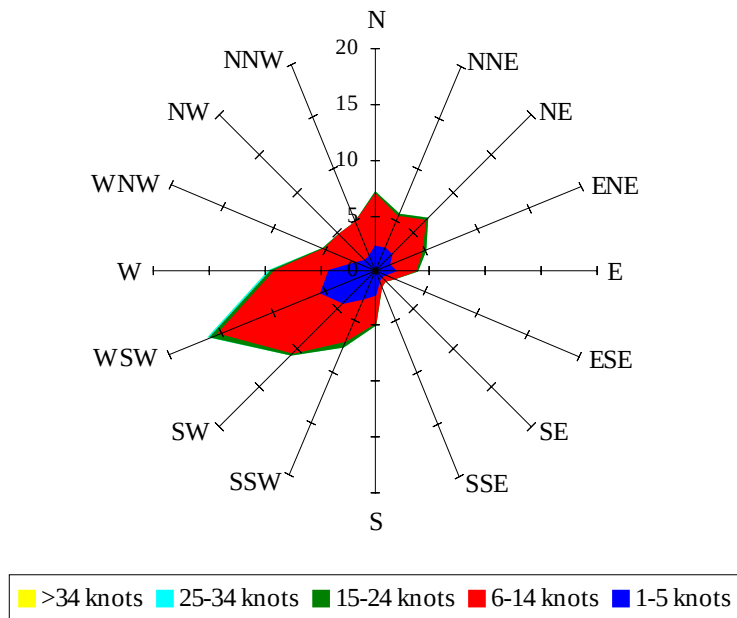
Labels of Percent Frequency on North Axis



Percent Calm = 4.22

Wind Summary - June, July, and August

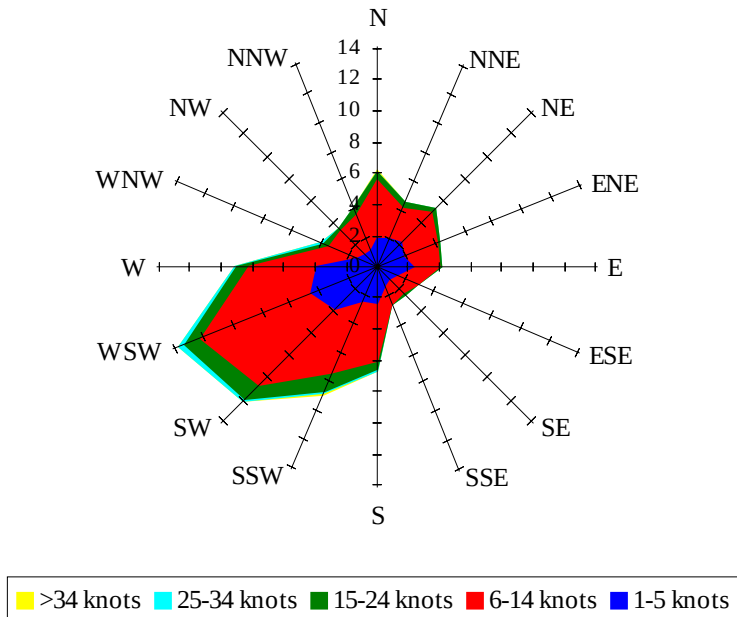
Labels of Percent Frequency on North Axis



Percent Calm = 4.41

Wind Summary - September, October, and November

Labels of Percent Frequency on North Axis



Percent Calm = 6.62